Prenatal micronutrient supplementation and postpartum haemoglobin

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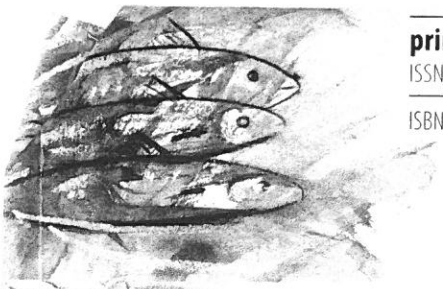

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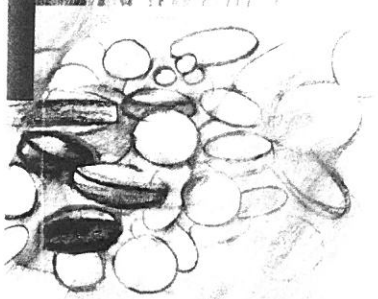

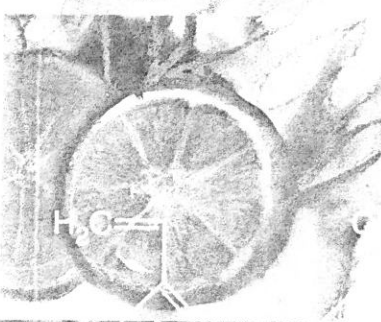

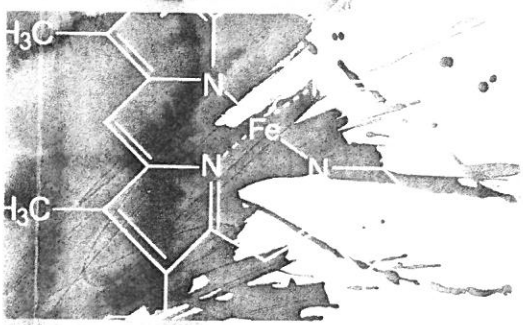

ABSTRACTS
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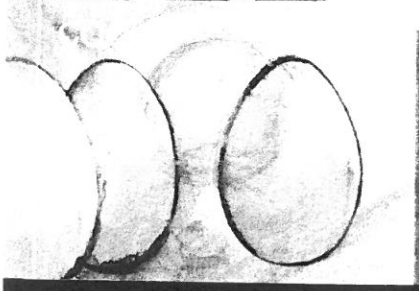

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P76-03
PRENATAL MICRONUTRIENT SUPPLEMENTATION AND POSTPARTUM HAEMOGLOBIN

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RATIONALE AND OBJECTIVES: International recommendations for prenatal micronutrient supplementation are being revised. It is unknown whether multimicronutrients have the same effect on hemoglobin as iron supplements.
MATERIALS AND METHODS: 1815 pregnant women in Guinea-Bissau were randomized to daily supplementation with one (MMN1) or two (MMN2) RDA of 15 micronutrients, including 30 mg iron, or iron/folic acid (control, 60 mg iron). Hemoglobin (Hb) was measured at baseline and 2 months postpartum (PP-Hb) using Hemocue.
RESULTS & FINDINGS: PP-Hb was available for 1003 (55%) women. Mean (95%CI) PP-Hb adjusted for baseline Hb and timing of measurement were 116.3 (114.7; 118.1) g/L in control, 115.0 (113.4; 116.7) in MMN1, and 117.2 (115.6; 118.8) in MMN2 (p=0.18). MMN2 seemed superior to MMN1 (p=0.066). Anemia prevalence (<110 g/L in pregnancy and <120 g/L postpartum) was 62 (57; 67) % in MMN1, 53 (48; 59) in MMN2 and 58 (52; 63) % in control (p=0.08).
CONCLUSION: MMN supplements with 30 mg iron gave similar PP-Hb and anemia compared to usual iron supplements (60 mg). However, two RDA multimicronutrients were more efficient than one RDA in improving postpartum hematological status.

P76-04
EVIDENCE OF SERUM VITAMIN D INSUFFICIENCY BUT NOT ANEMIA-RELATED MICRONUTRIENT DEFICIENCIES AMONG PRIMARY SCHOOL CHILDREN IN KUALA LUMPUR, MALAYSIA

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The micronutrient deficiency landscape of Malaysia throughout the past century was dominated principally by anemia, iron deficiency, vitamin A deficiency (VAD) and iodine deficiency disorders (IDD). By the 1990s, VAD had been reduced to low sub-clinical levels in young children and IDD confined to interior communities. However, anemia and iron deficiency continue to prevail at levels exceeding 20% among young children in rural areas. Data on other micronutrients are estimated mainly from dietary studies. Owing to a lack of studies on blood micronutrient concentrations among children in urban areas, a study was undertaken in 2008 to determine the micronutrient status of children aged 7-12 years attending primary schools in the capital city of Kuala Lumpur. Out of a total of 402 children (45% boys, 55% girls) from mainly middle income households, their mean serum concentrations of ferritin, hemoglobin, folate, vitamin B12 and zinc were 39.32±17.58µg/L, 128.69±8.43g/L, 23.20±8.84nmol/L, 474.42±120.73pmol/L and 11.77±1.42 µmol/L respectively for combined sexes. The proportions of children with low levels of ferritin (<12 µg/L), hemoglobin (<11g/L), folate (<3.4nmol/L), vitamin B12 (<148pmol/L) and zinc (<9.0 µmol/L) ranged from 0-2.2%. In contrast, mean concentration of serum vitamin D (25OHD) was 42.95±12.88nmol/L with 85.6% showing insufficiency levels (<60nmol/L). Implications of these findings will be discussed in relations to tropical countries undergoing economic and technological development.

P76-05
ENHANCERS OR INHIBITORS OF IRON IN DIETARY PATTERNS OF WOMEN WITH LOW IRON STORES COMPARED TO IRON REPLETE WOMEN

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RATIONALE & OBJECTIVE: Iron absorption from dietary sources may be affected by dietary enhancers or inhibitors present in foods or meals. This study is aimed to investigate the enhancers or inhibitors of iron within the dietary patterns of women with low iron stores compared to women who are iron replete.
MATERIALS & METHODS: Women aged 18-44 years, with low iron stores (LIS)(Serum Ferritin (SF) <20 µg/L, Haemoglobin (Hb) ≥120 g/L) (n=84) and normal iron stores (NIS)(SF≥20 µg/L, Hb≥120 g/L)(n=64) were compared. Blood samples (SF; Hb) were taken and dietary data collected using an iron habits assessment tool consisting of a non-quantitative food frequency questionnaire and a dietary practices questionnaire.
RESULTS & FINDINGS: The women with LIS had significantly lower median (IQR) SF than those with NIS (19 [9.8] vs. 48.5 [27]µg/L). If meat was eaten at lunch, LIS women were 3.48 times more likely to consume coffee than NIS (p=0.028). LIS women were 2.48 times more likely to consume milk products (p=0.016) and 7.36 times more likely to consume milk drinks (p=0.032) with meat containing evening meals compared to women with NIS who were 2.48 times more likely to consume milk products between meals (p=0.010).
CONCLUSION: It appears that the consumption of coffee and milk at meal times may contribute to low iron stores of women.

P76-06
A STUDY ON THE LEVELS OF VITAMIN D IN MILK AND OIL, ITS DIETARY INTAKE ASSESSMENT AND EFFECT OF FORTIFICATION ON VITAMIN D STATUS OF FEMALE STUDENTS IN THE U.A.E.

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We have extensively investigated the problem of vitamin D deficiency in the female students of the UAE University, by collecting data through their food intake.
The dietary intake survey indicates that over 70% female students constituting the survey population did not consume enough milk, and many showed poor food habits. Prevalence of vitamin D deficiency among the population according to residency shows that 69.9% of the studied population was considered as vitamin D deficient (Daily intake less than 5 µg). These findings suggest that vitamin D deficiency is a concern among adolescent girls in the UAE.
Analytical data on Vitamin A and D in milk confirmed large variations of vitamin A and D in milk (from that of labeled values); with a considerable milk samples, almost 40% samples with low and no vitamin D content It is alarming to find that no edible oil sample contained vitamin D, despite addition of vitamin D was declared on the label, although our recovery study of vitamin D in oil indicated an average of 98%.

P76-07
VITAMIN A AND MORBIDITY AMONG SCHOOL CHILDREN AGED 6-10 YEARS IN WAKISO DISTRICT, CENTRAL UGANDA

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RATIONALE & OBJECTIVES: Determine vitamin A deficiency and morbidity among school going children (6-10 years) in semi-urban setting of central Uganda
MATERIALS & METHODS: School children (n= 526) were selected from 2 public primary schools in Wakiso district. The Serum retinol was determined using HPLC, nutrition status with anthropometric measurements while morbidity by clinical examination.
RESULTS & FINDINGS: Data was analyzed using EpiInfo 2002 and SPSS version. The overall prevalence of vitamin A deficiency was 24.9% (<0.70 µmol/L). Bitot's spots (19.7%) and corneal lesions (10.3%) were the common